

REMARKS

A final Office Action was mailed on September 29, 2004. Claims 1 – 19 are pending in the present application. Applicants amend the specification. No new matter is added.

OBJECTION TO DRAWING

The drawing is objected to for including elements that fail to be described in the specification (FIG. 4 and reference numeral S70 of FIG. 29). Applicants amend the specification to provide the missing descriptions, and respectfully request that the objection be withdrawn.

REJECTION UNDER 35 U.S.C. §§ 102, 103

Claims 1 – 6, 9 – 13, 16 and 19 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,940,396 to Rochberger. Claims 7, 8, 14, 15, 17 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rochberger in view of U.S. Patent No. 5,872,773 to Katzela. Applicants respectfully traverse these rejections.

In independent claims 1, 9 and 19, Applicants disclose a method, node apparatus and system for carrying out load balancing independently within each of a plurality of areas each comprising a plurality of nodes. In independent claim 1, for example, Applicants claim:

1. A traffic engineering method of a network divided into a plurality of areas, each area including a plurality of nodes, said method comprising the step of carrying out a load-balancing process in said each area separately.

Rochberger discloses a method for routing in an ATM network (see, e.g., abstract of Rochberger). Rochberger's disclosed method provides for building networks on a

hierarchical basis and performing routing by means of recognizing the hierarchical network structure and routing to avoid “dead ends” (see, e.g., column 3, line 50 – column 4, line 2). In sharp contrast to Applicant’s claimed method, Rochberger’s method requires load balancing to be performed by each node along the route.

Applicants’ claimed invention requires load balancing to be performed in each of a plurality of areas of the network comprising multiple nodes. According to Applicants’ claimed method, a destination is first determined in each of the plurality of closed areas nodes, and load balancing is then carried out separately within each area on the route toward the destination. Applicants’ invention may enable a reduction in processing workload, for example, by performing load balancing for each closed area at only one node located on or near the boundary of an area.

While Rochberger discloses a network that is hierarchically organized, this hierarchy does not eliminate the requirement for load balancing to be performed at each node. According to the method of Rochberger, an address prefix of the network is used as a reference for route selection and “each node performs load balancing at each point in the routing process” such that no dead ends are reached by selecting branches of the hierarchy that don’t lead to the final destination (see, e.g., column 3, line 61 – column 4, line 1 of Rochberger).

By way of contrast, Applicants’ invention performs load balancing in a closed manner for each area on a default route between boundary nodes for the area. If traffic, for example, increases or decreases in a given area, an active boundary node can add or delete a route as necessary within that area to be load-balanced. In the event that an area

boundary node receives a message indicating an area failure or other disturbance, the area boundary node can re-arrange load balancing to avoid a traffic loss.

Accordingly, Applicant respectfully submits that independent claims 1, 9 and 19 are not anticipated by Rochberger, and are in condition for allowance. As claims 2 – 8 and 10 – 18 respectively depend from allowable claims 1 and 9, Applicants further submit that claims 2 – 8 and 10 – 18 are also allowable for at least this reason.

CONCLUSION

An earnest effort has been made to be fully responsive to the Examiner's objections. In view of the above amendments and remarks, it is believed that claims 1 – 19, including independent claims 1, 13 and 19, and the claims that depend therefrom, stand in condition for allowance. Passage of this case to allowance is earnestly solicited. However, if for any reason the Examiner should consider this application not to be in condition for allowance, he is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged on Deposit Account 50-1290.

Respectfully submitted,



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